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10/743,560

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Akihiro Ozeki

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EXAMINER

BERHANU, SAMUEL

ART UNIT

PAPER NUMBER

2838

MAIL DATE

DELIVERY MODE

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/743,560

Applicant(s)

OZEKI, AKIHIRO

Examiner

Samuel Berhanu

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 April 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 4,7,8 and 11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 4,7,8 and 11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 11/03/2004.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claim 4 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter that was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Claim 4, lines 14-17, "- - - to send a third message to the electronic apparatus when the power, electric power that is supplied from both the fuel cell and the secondary battery, and to send a third message to the electronic apparatus when the power consumption amount upon operating the electronic apparatus in the operation mode after switching exceeds an electric power that is supplied from both the fuel cell and the secondary battery". The disclosure doesn't disclose these limitations; nowhere in the specification or drawings these limitations are disclosed. Examiner has been unsuccessful in finding where these features are disclosed by the applicant.

Claim Objections

3. Claim 4 is objected to because of the following informalities

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Claim 4 recites the limitation " power consumption amount exceeds an electric power that is supplied from both the fuel cell and the secondary battery" .It is unclear how power consumption can exceed the power supplies. Instead a power demand or power required to operate the device could exceed the power supplies. Appropriate correction is required.

Claim Rejections - 35 USC § 102 or § 103

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 4 and 7-8 are rejected under 35 U.S.C. 102(b) as being anticipated by Yamamoto et. al. (US 2001/0034569), or, in the alternative, under 35 U.S.C. 103(a) as obvious over Saito et. al. (US 6,301,674)..

Regarding Claim 4, Yamamoto et. al. disclose in Figure 3, a fuel cell (20) which produces electricity by chemical reaction; a rechargeable secondary battery (80, paragraph 0078); a reception unit ((power control apparatus, 300, which receives signals Ri-RN) configured to receive a message which indicates

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switching of the operation modes from the electronic apparatus (the electronic apparatus inform the control to switch in to appropriate power mode switch); and a response unit (a control part that sends signals T upon receiving signal R) configured to send a first message (sending a fuel cell power based on the power request signal) when a power consumption amount upon operating the electronic apparatus in the operation mode after switching is lower than an electric power that is supplied from the fuel cell (when the fuel cell is capable to provide the device power demand then it responses for the request and provide an appropriate power to the electronic apparatus, so the fuel cell is configured to send the requested power as a first message to the electronic device or product) , and to send a second message to the electronic apparatus when a power consumption amount upon operating the electronic apparatus in the operation mode after switching exceeds an electric power that is supplied from the fuel cell, but the power consumption amount is lower than an electric power that is supplied from both the fuel cell and the secondary battery (Noted that when the electric products operating or consuming less power than provided by the cell unit then purchasing power from external power supply is not taking place; however, when the power consumption of the electronic products are higher than the power supplied by the cell then the external power supply, 80, such as storage cell compensate the deficiency of the fuel cell and provides sufficient power to the electronic products and the additional power as a second message would be sent to the electronic device, when the system resumes its function due to the additional power supplied by the external power supply (storage cell),

the power consumed by the electronic products are not greater than the total power supplied by the storage cell and the cell unit) (Paragraphs 0075-0078), and to send third message to the electronic apparatus when the power consumption amount upon operating the electronic apparatus in the operation mode after switching exceeds an electric power that is supplied from both the fuel cell and the secondary battery (noted that in paragraphs 0093 and 0094 Yamamoto discloses sending a signal when the power generated by the two power supplies are insufficient and to buy a power from outside source).

As the 103 alternative for Claim 4, assuming that Yamamoto does not disclose, and to send third message to the electronic apparatus when the power consumption amount upon operating the electronic apparatus in the operation mode after switching exceeds an electric power that is supplied from both the fuel cell and the secondary battery. Saito et. al. discloses in Figure 3, wherein the response unit (**The Breaker Unit**) sends a third message that inhibits switching of the operation mode, when the power consumption amount upon operating the electronic apparatus in the operation mode after switching exceeds an electric power that is supplied from both the fuel cell and the secondary battery (see Column 5, lines 59-67, Column 6, lines 1-2, Column 9, lines 48-60, Column 13, lines 23-59, Column 15, lines 20-27). It would have been obvious to a person having ordinary skill in the art at the time of the invention to add a power control means (breaker) as taught by Saito et. al. in Yamamoto et. al. apparatus in order to stop the power supply when the power consumption exceeds the limit of the power supply in order to prevent a fault or an accident from occurring.

Regarding Claim 7, Yamamoto et. al. disclose in Figure 3, a power control unit (30) configured to control the fuel cell to lower the output electric power, when the output electric power of the fuel cell is larger than the power consumption amount by a value beyond a predetermined value (when the Paragraph 0021).

Regarding Claim 8, Yamamoto et. al. disclose in Figure 3, a power control unit (300) configured to control the fuel cell to raise the output electric power (when the power control apparatus send the second signal to the cell unit, the cell unit increase or decrease the power generation based on the input signal), when the power consumption amount is larger than the output electric power of the fuel cell, wherein the response unit sends a signal indicating that the output electric power of the fuel cell has been changed to the electronic apparatus, when the output electric power of the fuel cell has reached the power consumption amount under the control of the power control unit (see example 2, on Page 5).

7. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yamamoto et. al. (US 2001/0034569) in view of Bonnefoy (US 5,714,874).

Regarding Claim 11, Yamamoto et. al. do not disclose explicitly, a power control unit configured to charge the secondary battery by electric power as a difference between the output electric power of the fuel cell and the power consumption amount, when the output electric power of the fuel cell is larger than the power consumption amount by a value beyond a predetermined value. However, Bonnefoy discloses in Figure 1, a power control unit (5a) configured to

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charge the secondary battery by electric power as a difference between the output electric power of the fuel cell and the power consumption amount, when the output electric power of the fuel cell is larger than the power consumption amount by a value beyond a predetermined value (Column 2, lines 20-25 and line 62, Column 3, line 51, Column 4, lines 24-34). It would have been obvious to a person having ordinary skill in the art at the time of the invention to add a fuel cell charging means as taught by Yamamoto in order to maintain the secondary battery voltage as a desire voltage so that the battery can provide sufficient power for the device for a long period of time.

Response to Arguments

8. Applicant's arguments filed 4/11/2007 have been fully considered but they are not persuasive. Applicant argues that there is no teaching or suggestion in Yamamoto, " sending a third message to the electronic apparatus when the power consumption amount upon operating the electronic apparatus in the operation mode after switching exceeds an electric power that is supplied from both the fuel cell and the secondary battery" This is incorrect. Yamamoto discloses in paragraphs 0093 and 0094 sending a signal (a third signal) when the power generated by the two power supplies are insufficient and to buy a power from out side source. As the 103 alternative for Claim 4, assuming that Yamamoto does not disclose, and to send third message to the electronic apparatus when the power consumption amount upon operating the electronic apparatus in the operation mode after switching exceeds an electric power that is supplied form both the fuel cell and the secondary battery. Saito et. al. discloses

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in Figure 3, wherein the response unit (**The Breaker Unit**) sends a third message that inhibits switching of the operation mode, when the power consumption amount upon operating the electronic apparatus in the operation mode after switching exceeds an electric power that is supplied from both the fuel cell and the secondary battery (see Column 5, lines 59-67, Column 6, lines 1-2, Column 9, lines 48-60, Column 13, lines 23-59, Column 15, lines 20-27)

Conclusion

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.


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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Samuel Berhanu whose telephone number is 571-272-8430. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Karl Easthom can be reached on 571-272-1989. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

SB


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PRIMARY EXAMINER